Meeting Minutes
IEEE P802.3bq Channel Model Ad Hoc
November 26th, 2013
Prepared by Pete Cibula and Brad Booth

Meeting Agenda:

1) Roll call - Record attendance, attendees' names and affiliations

2) Reminder of IEEE patent policy: www.ieee802.org/3/patent.html

3) Houskeeping:

   a) Review & approve meeting agenda.
   b) Approve meeting minutes from the October 29th meeting (unapproved minutes are available at the P802.3bq public area)

4) New business for the November 26th ad hoc meeting as follows:

   a) Channel Modeling ad hoc sub-team updates with discussion
      i) PCB transmission lines & noise for 10GBASE-T systems (B. Booth and P. Cibula)
      ii) MDI-to-MDI cabling channel (C. DiMinico and W. Larsen)
      iii) MDI & isolation path (M. Grimwood and G. Zimmerman)

   b) New contributions with discussion
      i) "State of the model"/ad hoc direction check (Brad Booth & Pete Cibula, P802.3bq Channel Modeling ad hoc co-chairs)
         (1) Status of planned future work (Impedance variations - 90ohm and 110ohm; internal layer routing and vias)
         (2) Suggestions/requests from the November Task Force meeting (PCB and ICM budgets)
         (3) Additional considerations for the PHY proposal ad hoc?

5) General Discussion and meeting wrap-up
   a) Review action items from this meeting
   b) Suggestions for future presentations
   c) Next steps/future meetings

The 11th meeting of the P802.3bq Channel Modeling Ad Hoc was called to order at 8:07 AM Pacific Standard Time.

1) Participants were asked to email B. Booth or P. Cibula a note confirming their attendance. The attendance record at the bottom of these minutes is a compilation of email confirmations and an online meeting log.

2) Participants were reminded of the IEEE's patent policy. Those not familiar with it were directed to the URL above.

3) Housekeeping & general updates:

   a) The agenda was reviewed with those in attendance; no modifications were suggested and the agenda was approved without opposition. The agenda stands approved.

   b) Participants were informed that the October 29th meeting minutes were completed and would be posted to the channel modeling ad hoc area as unapproved meeting minutes.

4) The meeting was then opened to hear new business for the November 26th ad hoc meeting as follows:

   a) Channel Modeling ad hoc sub-team updates

      i) PCB transmission lines & noise for 10GBASE-T systems (B. Booth and P. Cibula).

         (1) Efforts are ongoing to evaluate the effects of channel impedance variations using 90 ohm and 110 ohm targets as well as in-channel via structures.
            (a) The impedance variation work is ready to be shared with the ad hoc at the next meeting.
            (b) The analysis of via effects is under way but may not be ready in time for the next ad hoc call.
         (2) Participants noted that behavior of the 90 ohm/ 110 ohm model above 1.2GHz and below 1.8GHz will be of interest as the work of the PHY proposal ad hoc moves forward.

      ii) MDI-to-MDI cabling channel (C. DiMinico and W. Larsen).

         (1) No specific update was provided as the subteam has completed their main body of work.
         (2) Participants were informed that additional channel data (a short AWG22 channel, 0.5m-3m-0.5m, with and without MDI) is being developed as a follow-up to rossbach_3bq_01_1113.pdf.

      iii) MDI & isolation path (M. Grimwood and G. Zimmerman)

         (1) Work is continuing on the ICM model presented in the October 29th meeting and the Dallas task force meeting (reducing sample-to-sample variation). Participants will be refining MDI models and anticipate presenting the work no later than the IEEE 802.3 January 2014 Interim meeting.
         (2) Work is also under to secure for more data/models from other MDI vendors

      iv) Participants discussed interactions between various model elements that were noted in the Dallas meeting (See grimwood_3bq_01_1113.pdf and diminico_3bq_02a_1113.pdf for examples) and noted that looking at the effects of expected variations in PCB and MDI characteristic will be important in the future work of the task force.

   b) New contribution

      i) State of the model (Pete Cibula, Intel Corporation)

(1) Participants agreed that the ad hoc has sufficiently completed the fundamental work outlined in our "Potential Path Forward" to begin evaluating PHY proposals.
(2) Further discussion focused on additional work for this ad hoc (summarized in the Channel Modeling ad hoc next steps slide of the presentation) and some observations associated with MDI connectors and isolation (for example, is there a combination of connector and isolation elements that doesn't have issues associated with split pairs?).
(3) Participants were encouraged to continue to contribute to the ongoing work of the channel modeling ad hoc and to be ready to support the efforts of the new PHY proposal ad hoc.

c) Closing discussion – Future meetings
   i) Participants agreed to set the next meeting three weeks in the future to give the PCB modeling effort time to include via effects in that work.

5) The next meeting was scheduled for Wednesday, December 18th, 2013 at 8:00AM PDT.

The P802.3bq Channel Modeling Ad Hoc meeting was adjourned at 8:45 AM Pacific Standard Time.

Meeting Attendance

Name	**Employer**	**Affiliation (if different)**
Brad Booth	Microsoft	
Pete Cibula	Intel	
Chris DiMinico	MC Communications	Panduit
Thuyen Dinh	Pulse	
Harry Forbes	Nexans	
Mike Good	Berk-Tek	
Dave Jeskey	Sentinel Connector	
Wayne Larsen	Commscope	
Maria Maqueda	TE Connectivity	
Rich Mellitz	Intel	
Ron Nordin	Panduit	
Martin Rossbach	Nexans	
Dieter Schicketanz	University of Science, Reutlingen	
Ray Schmelzer	Intel	
Bob Wagner	Panduit	
Peter Wu	Marvell	
George Zimmerman	CME Consulting	Aquantia, Commscope